



U.S. Department  
of Transportation

**Research and  
Special Programs  
Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

**JUN 17 2004**

DOT-E 11360  
(FIFTH REVISION)

EXPIRATION DATE: May 31, 2006

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Space Systems/Loral, Inc.  
Palo Alto, CA
2. PURPOSE AND LIMITATION:
  - a. This exemption authorizes the transportation in commerce of certain non-DOT specification pressure vessels containing compressed hydrogen, which are component parts of a nickel-hydrogen battery. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.301(f)), § 173.302a(a) in that a non-DOT specification pressure vessel is not authorized except as specified herein, and § 175.3.
5. BASIS: This exemption is based on Space Systems/Loral's application dated April 2, 2004, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

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Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Hydrogen, compressed	2.1	UN1049	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packagings are non-DOT specification pressure vessels, which are shipped as component parts of a nickel-hydrogen battery. Pressure relief devices are not required.

(1) The pressure vessels are constructed of Inconel 718 alloy per AMS 5596, and have a maximum service pressure of 1,000 psig. Pressure vessels must be designed and constructed in accordance with MIL-STD-1522 and must have a minimum burst pressure to service pressure ratio of 2.7. Pressure vessels must be tested in accordance with all requirements of Space Systems/Loral Specification 582061, Revision J.

(2) The nickel-hydrogen battery must meet the requirements of § 173.159(d) for a nonspillable, wet, electric storage battery. There must be no release of gas during the vibration or pressure differential tests.

b. MARKING - The outside of each shipping container must be marked "Inside Packaging Conforms to DOT-E 11360".

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who receives a package covered by this exemption may reoffer it for transportation provided no modification or change is made to the package or its contents and it is reoffered for transportation in conformance with this exemption and the HMR.

- b. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.
- c. Each battery must be transported in a strong outside shipping container.
- d. Transportation of Division 2.1 (flammable gases) are not authorized aboard cargo vessel or aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).
- e. The transportation of oxygen by aircraft is only authorized when in accordance with § 172.102(c)(2) Special Provision A52 and §§ 175.85(h) and (i).
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo vessel, and cargo-only aircraft.
10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel or aircraft used to transport packages covered by this exemption. The shipper must furnish a copy of this exemption to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by Federal hazardous materials transportation law 49 U.S.C. 5101 et seq.:
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
  - o Persons operating under the terms of this exemption must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
  - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8 who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incidents involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:



*fa* Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

JUN 17 2004

(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
Attention: DHM-31.

Copies of this exemption may be obtained by accessing the Hazardous Materials Safety Homepage at <http://hazmat.dot.gov/exemptions> Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: CWF/alb